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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/087,508 | 03/01/2002 | Seiji Yoshimura | 4321 | 4072 |

21553 7590 04/21/2005

FASSE PATENT ATTORNEYS, P.A.
P.O. BOX 726
HAMPDEN, ME 04444-0726

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| EXAMINER |
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MERCADO, JULIAN A

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| ART UNIT | PAPER NUMBER |
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1745

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/087,508

Applicant(s)

YOSHIMURA ET AL.

Examiner

Julian Mercado

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Remarks

This Office action is responsive to applicant's amendment filed March 17, 2005.

Claims 5-11 have been canceled. Claims 1-4 are pending.

This Office action presents a new ground of rejection and is therefore made NON-FINAL.

Claim Rejections - 35 USC § 112

The rejection of claims 5-11 under 35 U.S.C. 112, first paragraph is deemed moot in view of the cancellation of these claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimura et al. (U.S. Pat. 5,578,395) in view of Ebel et al. (U.S. Pat. 5,114,811)

At the outset, the examiner acknowledges applicant's remarks that the range of boron in Yoshimura et al., calculated as 0.2 to 4 wt. %, overlaps with the claimed 0.1 to 3 wt. %.

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As noted in the *Conclusion* section of the prior Office action, Yoshimura et al. is cited to teach a lithium battery having a positive electrode containing manganese dioxide. (Table 1) As the scope of the present claim does not preclude a composite transition metal oxide material which contains manganese dioxide, Yoshimura et al. teaches a composite of lithium manganese dioxide and manganese dioxide having boron overlapping with the claimed range. (col. 2 line 30-35)

Yoshimura further teaches a lithium alloy negative electrode (col. 5 line 20-22), however, the amount of aluminum in the alloy is not disclosed. Ebel et al. teaches an anode for a lithium battery comprising an alloy of lithium aluminum. (col. 3 line 33 et seq.) The amount of aluminum is from 0% to about 50% by weight. As to the claimed range of 0.05 to 2%, absent of unexpected results it is asserted that the amount of aluminum is an optimizable parameter for a result-effective variable. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) To this extent, Ebel et al. teaches that “[t]he greater the amount of aluminum present by weight in the alloy the lower the energy density of the cell”. (line 37-41)

As to claims 2 and 3, the process limitations therein are not given patentable weight as these limitations does not give breadth or scope to the product claim. The claimed product appears to be the same or similar to the prior art product insofar as being a positive electrode containing manganese dioxide and boron. In the event that any differences can be shown by the product of the product-by-process claims 2 and 3, such differences would have been obvious to the skilled artisan as a routine modification of the product absent of a showing of unexpected results. *In re Thorpe*, 227 USPQ 964 (Fed. Cir. 1985).

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The examiner notes that this ground of rejection is applied towards the claims in that claim 1 does not limit the claimed battery as a primary battery, nor does the claim limit the active material in the positive electrode as consisting of manganese dioxide only.

Allowable Subject Matter

The allowability of claims 1-4 has been rescinded in view of the new ground of rejection set forth above.

Conclusion

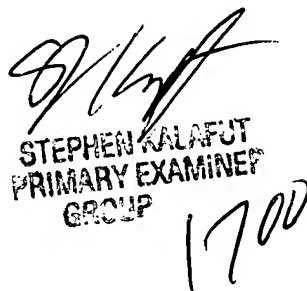
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian Mercado whose telephone number is (571) 272-1289. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature, possibly reading "Sam", enclosed within a large, loopy oval shape.A handwritten signature above a rectangular stamp. The stamp contains the text "STEPHEN KALAFUT", "PRIMARY EXAMINER", and "GROUP". To the right of the stamp is the handwritten number "1700".